



Australian Government

Assessment Requirements for MSMTMVER403 Verify Inspectors' Class reference standards

Release: 2

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Modification History

Release 2. Minor adjustments/corrections to all sections, inc. performance and knowledge evidence. Equivalent.

Release 1. Supersedes and is equivalent to MSATMVER403A Verify inspector's class reference standards

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- calibrating and verifying the following Inspectors' Class level reference standards using standard calibration procedures:
 - at least one (1) mass Inspectors' Class 1, 2 or 3 reference standard (single or double substitution)
 - at least one (1) Inspectors' Class 1 length reference standard (flexible or rigid)
 - at least one (1) Inspectors' Class 1 volume reference standard (gravimetric or volumetric)
- receiving and scheduling Inspectors' Class reference standards for calibration in accordance with organisation policy and procedures
- accessing and correctly interpreting documentation required for verifications and calibration of Inspectors' Class reference standards
- preparing for calibrations by considering possible hazards, sources of measurement error, control strategies, conditioning of standards and evaluating/documenting the suitability of high order reference standards and measuring equipment selected for use
- using the specified personal protective equipment, safety equipment and procedures to safely conduct calibrations
- assessing the design, suitability and appearance of Inspectors' Class reference standards
- performing calibrations, without variance, according to the standard methods, using prescribed high order reference standards, Certificates of Verification, National Measurement Institute (NMI) policy and procedures, NMI monographs, and organisational procedures
- if applicable, making adjustments to Inspectors' Class reference standards
- examining each calibration step critically to ensure repeatability and validity of data
- estimating uncertainties, comparing calibration results with prescribed performance criteria for the Inspectors' Class reference standard and confirming that results are within maximum permissible variation and uncertainty
- analysing any variances in results from the performance criteria to identify isolated or systemic problems with the Inspectors' Class reference standards or calibration procedure

- attaching all required calibration labels, equipment stickers, quality control tags and tamper resistant seals on the standard
- completing all calibration documentation and reporting in accordance with legislative requirements and organisational procedures
- cleaning and storing test equipment/high order reference standards and documenting their status in accordance with organisational policy and procedures
- using communication skills to:
 - deal with customers politely and efficiently
 - communicate with the laboratory manager
- performing specified calculations involving:
 - fractions, decimals, ratios, proportions and percentages
 - scientific notation, correct units and the correct number of significant figures
 - interpretation of statistical quantities, such as mean, median, mode, range, variance and standard deviation
 - uncertainties
 - use of calibration and correction charts, determination of regression line equations and correlation coefficients
- maintaining the security and confidentiality of data in accordance with organisational and regulatory requirements
- reporting results in the required formats and expected timeframe
- working safely.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- purpose of metrology and calibration, including common terminology, concepts, principles, procedures and applications
- detailed knowledge of specific metrology terms and principles, including uncertainty, maximum permissible variations, traceability and legal requirements for traceability
- NATA's and the NMI's role in Australia's measurement and testing system, and measurement standards laboratories
- requirements for the competence of testing and calibration laboratories (for example, AS ISO/IEC 17025) as they affect job role and responsibilities
- national measurement legislation applicable to verification of Inspectors' Class reference standards
- hierarchy and appropriate selection of reference standards
- NMI policy, procedures, monographs and operating procedures for equipment, and reference standards used in job role
- detailed knowledge of calibration procedures (equipment, measurement steps, test conditions, environmental impacts, calculations and uncertainty treatment) to give valid results with appropriate accuracy, precision and units
- non-conformance/non-compliance procedures and protocols associated with equipment, reference material and calibration procedures

- troubleshooting procedures for equipment and test methods
- handling, transport, storage and documentation of reference and working standards
- laboratory environmental control requirements
- lines of communication and reporting procedures.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency should be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - *MSMTMREF301 Use and maintain reference standards*
- Holistic assessment methods include:
 - review of calibration results, calculations and verification reports prepared by the candidate
 - feedback from supervisors regarding the candidate's ability to verify Inspectors' Class reference standards in accordance with legislative and organisational procedures
 - questions to assess understanding of relevant metrology/calibration terms, principles and procedures, common calibration issues and problems
 - observation of the candidate calibrating Inspectors' Class reference standards.
- Access is required to high order and Inspectors' Class reference standards, test equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - latest versions of appropriate documentation, such as high order reference standards, Certificates of Verification and Approval, NMI policy, test procedures for verifying Inspectors' Class reference standards, validated/authorised methods for standard calibrations and relevant legislation
 - equipment manuals, safety data sheets (SDS), safety procedures and safety equipment
 - records, such as test reports, audit reports, reference standard history and test results
 - computer and relevant software and/or organisation information management system.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.

- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience in trade measurement at least to the level being assessed and broad industry knowledge (such as a relevant industry qualification).
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment in trade measurement OR
 - having consulted with trade measurement inspectors and/or verifiers performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>